

CLAIMS

1. System for identifying a threat associated person among a crowd in a protected area, the system comprising:

an expert system network, comprising a plurality of local expert
5 systems, each of said local expert systems being associated with a
respective one of a plurality of surveillance fields within said protected
area, each said local expert systems being coupled with a plurality of
data acquisition systems of various types, each of said data
10 acquisition systems acquiring threat related data and marking related
data respective of selected persons among said crowd within said
respective surveillance field, each said local expert systems
determining a respective local threat level for every one of said
selected persons within said respective surveillance field, according
to said threat related data and said marking related data; and

15 a supervising system coupled with said expert system network,
said supervising system coordinating the operation of said local
expert systems, said supervising system receiving from each of said
local expert systems said respective local threat level, for every one
of said selected persons within said respective surveillance field, said
20 supervising system determining a global threat level according to said
local threat levels, thereby identifying said threat associated person.

2. The system according to claim 1, further comprising a warning
25 system coupled with said supervising system, said warning system
producing a warning signal according to said global threat level.

3. The system according to claim 1, further comprising at least one
warning system coupled with a respective one of said local expert
30 systems, said at least one warning system producing a warning signal
according to said respective local threat level.

4. The system according to claim 1, wherein said supervising system is embedded with at least one of said local expert systems.
5. The system according to claim 1, wherein at least one of said data acquisition systems determines a respective preliminary probability level respective of at least one of said selected persons, and
wherein said at least one data acquisition system determines a respective local threat level, according to at least one of said respective preliminary probability level and a data acquisition system threshold.
6. The system according to claim 1, wherein each of said local expert systems determines said respective local threat level, by correlating between data received from different ones of said data acquisition systems.
7. The system according to claim 1, wherein said protected area is selected from the list consisting of:
 - airport;
 - shopping center;
 - office building;
 - hospital;
 - academic institute;
 - military base; and
 - government facility.
8. The system according to claim 1, wherein each of said data acquisition systems is selected from the list consisting of:
 - human prescreening system;
 - video surveillance system;
 - document inspection system;

explosive detection system;
chemical substance detection system;
weapon detection system;
human marking system;
5 authorized personnel identification system;
biometric system;
vehicle inspection system;
facial expression acquisition system; and
luggage inspection system.

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9. The system according to claim 1, further comprising a human marking system for marking each of said selected persons who enters at least one of said surveillance fields, by imaging at least one bodily feature of said selected person from a plurality of different viewing angles, by producing a three-dimensional signature of said
15 bodily feature of said selected person, and by storing said three-dimensional signature.

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10. The system according to claim 9, wherein said human marking system compares a newly produced three-dimensional signature with said stored three-dimensional signature, to track and identify said selected person.

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11. The system according to claim 9, wherein said human marking system requires no cooperation from said selected persons, in order to operate.

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12. Method for identifying a threat associated person among a crowd, the method comprising the procedure of:
acquiring marking related data and threat related data for at least selected persons in said crowd within a protected area;

determining a local threat level for said at least selected persons in each of a plurality of surveillance fields of said protected area, by a respective one of a plurality of local expert systems, according to threat related data and marking related data acquired for said surveillance field; and

determining a global threat level for said at least selected persons in said protected area, according to said local threat levels, determined by said local expert systems, thereby identifying said threat associated person.

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13. The method according to claim 12, further comprising a preliminary procedure of defining said surveillance fields for said protected area.

14. The method according to claim 12, further comprising a preliminary procedure of associating said respective local expert system with a respective one of said surveillance fields.

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15. The method according to claim 12, further comprising a preliminary procedure of embedding a supervising system which determines said global threat level, with at least one of said local expert systems.

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16. The method according to claim 12, further comprising a procedure of producing a warning signal according to said local threat level.

17. The method according to claim 12, further comprising a procedure of producing a warning signal according to said global threat level.

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18. The method according to claim 12, wherein said procedure of determining said local threat level is performed according to at least one of a preliminary probability level as determined by a respective

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data acquisition system, and a data acquisition system threshold respective of said respective data acquisition system.

- 5 19. The method according to claim 12, wherein said procedure of determining said local threat level is performed by correlating between said threat related data and said marking related data.
- 10 20. The method according to claim 12, wherein said procedure of determining said local threat level is performed according to data acquired by different types of data acquisition systems.
- 15 21. The method according to claim 12, further comprising a procedure of determining the location of said threat associated person within said protected area.
22. The method according to claim 12, further comprising a preliminary procedure of marking said at least selected persons at an entrance to said protected area.
- 20 23. The method according to claim 12, wherein said procedure of acquiring said marking related data is performed by imaging at least one bodily feature of said at least selected persons, from a plurality of different viewing angles, producing a three-dimensional signature of said at least one bodily feature and storing said three-dimensional signature.
- 25 24. The method according to claim 23, further comprising a procedure of tracking and identifying a selected person for whom newly acquired three-dimensional signature is produced in at least one of said surveillance fields, by comparing said newly acquired
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three-dimensional signature with said stored three-dimensional signature.

- 5 25. The method according to claim 12, wherein said procedure of acquiring said marking related data is performed without requiring any cooperation from said at least selected persons.
- 10 26. System for identifying a threat associated person among a crowd in a protected area, according to claim 1 substantially as described hereinabove.
- 15 27. System for identifying a threat associated person among a crowd in a protected area, according to claim 1 substantially as illustrated in any of the drawings.
- 20 28. Method for identifying a threat associated person among a crowd according to claim 12 substantially as described hereinabove.
29. Method for identifying a threat associated person among a crowd, according to claim 12 substantially as illustrated in any of the drawings.